SEQUENCE LISTING

<110> Akzo Nobel NV

<120> Structural Proteins of Fish Pancreatic Disease Virus
and Uses Thereof

<130> I/98376US

<140> PCT/EP 99/03244
<141> 1999-05-06

<150> EP98201461.5
<151> 1998-05-08

<160> 15

<170> PatentIn Ver. 2.1

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<212> PRT
<213> Salmon pancreatic disease virus

<220>
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<400> 2

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Cys Lys Asp Thr Asp Leu Trp Thr Glu Phe Ala Glu Lys Pro Val Arg
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Leu Ser Pro Gly Gln Ile Glu Glu Tyr Val Phe His Leu Gln Gly Ala
        35                  40                  45

Lys Ala Asn Val Met His Ser Arg Val Glu Ala Val Cys Pro Asp Leu
    50                  55                  60

Ser Glu Val Ala Met Asp Arg Phe Thr Leu Asp Met Lys Arg Asp Val
65                  70                  75                  80

Lys Val Thr Pro Gly Thr Lys His Val Glu Glu Arg Pro Lys Val Gln
                85                  90                  95

Glu Ile Gln Ala Ala Asp Pro Met Ala Thr Ala Tyr Leu Cys Ala Ile
            100                 105                 110

His Arg Glu Leu Val Arg Arg Leu Lys Ala Val Leu Lys Pro Ser Ile
        115                 120                 125

His Val Leu Phe Asp Met Ser Ser Glu Asp Phe Asp Ala Ile Val Gly
    130                 135                 140

His Gly Met Lys Leu Gly Asp Lys Val Leu Glu Thr Asp Ile Ser Ser
145                 150                 155                 160

Phe Asp Lys Ser Gln Asp Gln Ala Met Ala Val Thr Ala Leu Met Leu
                165                 170                 175

Leu Arg Asp Leu Gly Val Glu Glu Asp Leu Leu Thr Leu Ile Glu Ala
            180                 185                 190

Ser Phe Gly Asp Ile Thr Ser Ala His Leu Pro Thr Gly Thr Arg Phe
        195                 200                 205

Gln Phe Gly Ser Met Met Lys Ser Gly Leu Phe Leu Thr Leu Phe Val
    210                 215                 220

Asn Thr Leu Leu Asn Ile Thr Ile Ala Ala Arg Val Leu Arg Glu Gln
225                 230                 235                 240

Leu Ala Asp Thr Arg Cys Ala Ala Phe Ile Gly Asp Asp Asn Val Ile
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Thr Gly Val Val Ser Asp Asp Met Met Val Ala Arg Cys Ala Ser Trp
260 265 270

Leu Asn Met Glu Val Lys Ile Met Asp Met Glu Ile Gly Asn Met Ser
275 280 285

Pro Tyr Phe Cys Gly Gly Phe Leu Leu Leu Asp Thr Val Thr Gly Thr
290 295 300

Val Ser Arg Val Ser Asp Pro Val Lys Arg Leu Met Lys Met Gly Lys
305 310 315 320

Pro Ala Leu Asn Asp Pro Glu Thr Asp Val Asp Arg Cys Arg Ala Leu
325 330 335

Arg Glu Glu Val Glu Ser Trp Tyr Arg Val Gly Ile Gln Trp Pro Leu
340 345 350

Gln Val Ala Ala Ala Thr Arg Tyr Gly Val Asn His Leu Pro Leu Ala
355 360 365

Thr Met Ala Met Ala Thr Leu Ala Gln Asp Leu Arg Ser Tyr Leu Gly
370 375 380

Ala Arg Gly Glu Tyr Val Ser Leu Tyr Val
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<213> Salmon pancreatic disease virus

<220>
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Pro Ala Ala Gly His Asn Gly Asp Gly His Ala Arg Pro Gly Leu Glu
35 40 45

Ile Val Pro Gly Arg Ala Arg Gly Val Arg Ile Pro Leu Arg Leu Thr
50 55 60

Leu Ile Phe Ser Ala Ser Tyr Phe Gln Thr Ile Met Phe Pro Met Gln
65 70 75 80

Phe Thr Asn Ser Ala Tyr Arg Gln Met Glu Pro Met Phe Ala Pro Gly
85 90 95

Ser Arg Gly Gln Val Gln Pro Tyr Arg Pro Arg Thr Lys Arg Arg Gln

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            100                 105                 110

Glu Pro Gln Val Gly Asn Ala Ala Ile Thr Ala Leu Ala Asn Gln Met
        115                 120                 125

Ser Ala Leu Gln Leu Gln Val Ala Gly Leu Ala Gly Gln Ala Arg Val
    130                 135                 140

Asp Arg Arg Gly Pro Arg Arg Val Gln Lys Asn Lys Gln Lys Lys Lys
145                 150                 155                 160

Asn Ser Ser Asn Gly Glu Lys Pro Lys Glu Lys Lys Lys Lys Gln Lys
                165                 170                 175

Gln Gln Glu Lys Lys Gly Ser Gly Gly Glu Lys Val Lys Lys Thr Arg
            180                 185                 190

Asn Arg Pro Gly Lys Glu Val Arg Ile Ser Val Lys Cys Ala Arg Gln
        195                 200                 205

Ser Thr Phe Pro Val Tyr His Glu Gly Ala Ile Ser Gly Tyr Ala Val
    210                 215                 220

Leu Ile Gly Ser Arg Val Phe Lys Pro Ala His Val Lys Gly Lys Ile
225                 230                 235                 240

Asp His Pro Glu Leu Ala Asp Ile Lys Phe Gln Val Ala Glu Asp Met
                245                 250                 255

Asp Leu Glu Ala Ala Ala Tyr Pro Lys Ser Met Arg Asp Gln Ala Ala
            260                 265                 270

Glu Pro Ala Thr Met Met Asp Arg Val Tyr Asn Trp Glu Tyr Gly Thr
        275                 280                 285

Ile Arg Val Glu Asp Asn Val Ile Ile Asp Ala Ser Gly Arg Gly Lys
    290                 295                 300

Pro Gly Asp Ser Gly Arg Ala Ile Thr Asp Asn Ser Gly Lys Val Val
305                 310                 315                 320

Gly Ile Val Leu Gly Gly Gly Pro Asp Gly Arg Arg Thr Arg Leu Ser
                325                 330                 335

Val Ile Gly Phe Asp Lys Lys Met Lys Ala Arg Glu Ile Ala Tyr Ser
            340                 345                 350

Asp Ala Ile Pro Trp Thr Arg Ala Pro Ala Leu Leu Leu Leu Pro Met
        355                 360                 365

Val Ile Val Cys Thr Tyr Asn Ser Asn Thr Phe Asp Cys Ser Lys Pro
    370                 375                 380

Ser Cys Gln Asp Cys Cys Ile Thr Ala Glu Pro Glu Lys Ala Met Thr
385                 390                 395                 400

Met Leu Lys Asp Asn Leu Asn Asp Pro Asn Tyr Trp Asp Leu Leu Ile
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Ala Val Thr Thr Cys Gly Ser Ala Arg Arg Lys Arg Ala Val Ser Thr
420 425 430

Ser Pro Ala Ala Phe Tyr Asp Thr Gln Ile Leu Ala Ala His Ala Ala
435 440 445

Ala Ser Pro Tyr Arg Ala Tyr Cys Pro Asp Cys Asp Gly Thr Ala Cys
450 455 460

Ile Ser Pro Ile Ala Ile Asp Glu Val Val Ser Ser Gly Ser Asp His
465 470 475 480

Val Leu Arg Met Arg Val Gly Ser Gln Ser Gly Val Thr Ala Lys Gly
485 490 495

Gly Ala Ala Gly Glu Thr Ser Leu Arg Tyr Leu Gly Arg Asp Gly Lys
500 505 510

Val His Ala Ala Asp Asn Thr Arg Leu Val Val Arg Thr Thr Ala Lys
515 520 525

Cys Asp Val Leu Gln Ala Thr Gly His Tyr Ile Leu Ala Asn Cys Pro
530 535 540

Val Gly Gln Ser Leu Thr Val Ala Ala Thr Leu Asp Gly Thr Arg His
545 550 555 560

Gln Cys Thr Thr Val Phe Glu His Gln Val Thr Glu Lys Phe Thr Arg
565 570 575

Glu Arg Ser Lys Gly His His Leu Ser Asp Met Thr Lys Lys Cys Thr
580 585 590

Arg Phe Ser Thr Thr Pro Lys Lys Ser Ala Leu Tyr Leu Val Asp Val
595 600 605

Tyr Asp Ala Leu Pro Ile Ser Val Glu Ile Ser Thr Val Val Thr Cys
610 615 620

Ser Asp Ser Gln Cys Thr Val Arg Val Pro Pro Gly Thr Thr Val Lys
625 630 635 640

Phe Asp Lys Lys Cys Lys Ser Ala Asp Ser Ala Thr Val Thr Phe Thr
645 650 655

Ser Asp Ser Gln Thr Phe Thr Cys Glu Glu Pro Val Leu Thr Ala Ala
660 665 670

Ser Ile Thr Gln Gly Lys Pro His Leu Arg Ser Ala Met Leu Pro Ser
675 680 685

Gly Gly Lys Glu Val Lys Ala Arg Ile Pro Phe Pro Phe Pro Pro Glu
690 695 700

Thr Ala Thr Cys Arg Val Ser Val Ala Pro Leu Pro Ser Ile Thr Tyr

705 710 715 720

Glu Glu Ser Asp Val Leu Leu Ala Gly Thr Ala Lys Tyr Pro Val Leu
725 730 735

Leu Thr Thr Arg Asn Leu Gly Phe His Ser Asn Ala Thr Ser Glu Trp
740 745 750

Ile Gln Gly Lys Tyr Leu Arg Arg Ile Pro Val Thr Pro Gln Gly Ile
755 760 765

Glu Leu Thr Trp Gly Asn Asn Ala Pro Met His Phe Trp Ser Ser Val
770 775 780

Arg Tyr Ala Ser Gly Asp Ala Asp Ala Tyr Pro Trp Glu Leu Leu Val
785 790 795 800

Tyr His Thr Lys His His Pro Glu Tyr Ala Trp Ala Phe Val Gly Val
805 810 815

Ala Cys Gly Leu Leu Ala Ile Ala Ala Cys Met Phe Ala Cys Ala Cys
820 825 830

Ser Arg Val Arg Tyr Ser Leu Val Ala Asn Thr Phe Asn Ser Asn Pro
835 840 845

Pro Pro Leu Thr Ala Leu Thr Ala Ala Leu Cys Cys Ile Pro Gly Ala
850 855 860

Arg Ala Asp Gln Pro Tyr Leu Asp Ile Ile Ala Tyr Phe Leu Gly Val
865 870 875 880

Arg Gly Trp Ser Ala Leu Leu Val Ile Leu Ala Tyr Val Gln Ser Cys
885 890 895

Lys Ser Tyr Glu His Thr Val Val Val Pro Met Asp Pro Arg Ala Pro
900 905 910

Ser Tyr Glu Ala Val Ile Asn Arg Asn Gly Tyr Asp Pro Leu Lys Leu
915 920 925

Thr Ile Ser Val Asn Phe Thr Val Ile Ser Pro Thr Thr Ala Leu Glu
930 935 940

Tyr Trp Thr Cys Ala Gly Val Pro Ile Val Glu Pro Pro His Val Gly
945 950 955 960

Cys Cys Thr Ser Val Ser Cys Pro Ser Asp Leu Ser Thr Leu His Ala
965 970 975

Phe Thr Gly Lys Ala Val Ser Asp Val His Cys Asp Val His Thr Asn
980 985 990

Val Tyr Pro Leu Leu Trp Gly Ala Ala His Cys Phe Cys Ser Thr Glu
995 1000 1005

Asn Thr Gln Val Ser Ala Val Ala Ala Thr Val Ser Glu Phe Cys Ala

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Gln Asp Ser Glu Arg Ala Glu Ala Phe Ser Val His Ser Ser Ser Val
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Thr Ala Glu Val Leu Val Thr Leu Gly Glu Val Val Thr Ala Val His
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Val Tyr Val Asp Gly Val Thr Ser Ala Arg Gly Thr Asp Leu Lys Ile
            1060                1065                1070

Val Ala Gly Pro Ile Thr Thr Asp Tyr Ser Pro Phe Asp Arg Lys Val
        1075                1080                1085

Val Arg Ile Gly Glu Glu Val Tyr Asn Tyr Asp Trp Pro Pro Tyr Gly
    1090                1095                1100

Ala Gly Arg Pro Gly Thr Phe Gly Asp Ile Gln Ala Arg Ser Thr Asn
1105                1110                1115                1120

Tyr Val Lys Pro Asn Asp Leu Tyr Gly Asp Ile Gly Ile Glu Val Leu
                1125                1130                1135

Gln Pro Thr Asn Asp His Val His Val Ala Tyr Thr Tyr Thr Thr Ser
            1140                1145                1150

Gly Leu Leu Arg Trp Leu Gln Asp Ala Pro Lys Pro Leu Ser Val Thr
        1155                1160                1165

Ala Pro His Gly Cys Lys Ile Ser Ala Asn Pro Leu Leu Ala Leu Asp
    1170                1175                1180

Cys Gly Val Gly Ala Val Pro Met Ser Ile Asn Ile Pro Asp Ala Lys
1185                1190                1195                1200

Phe Thr Arg Lys Leu Lys Asp Pro Lys Pro Ser Ala Leu Lys Cys Val
                1205                1210                1215

Val Asp Ser Cys Glu Tyr Gly Val Asp Tyr Gly Gly Ala Ala Thr Ile
            1220                1225                1230

Thr Tyr Glu Gly His Glu Ala Gly Lys Cys Gly Ile His Ser Leu Thr
        1235                1240                1245

Pro Gly Val Pro Leu Arg Thr Ser Val Val Glu Val Val Ala Gly Ala
    1250                1255                1260

Asn Thr Val Lys Thr Thr Phe Ser Ser Pro Thr Pro Glu Val Ala Leu
1265                1270                1275                1280

Glu Val Glu Ile Cys Ser Ala Ile Val Lys Cys Ala Gly Glu Cys Thr
                1285                1290                1295

Pro Pro Lys Glu His Val Val Ala Thr Arg Pro Arg His Gly Ser Asp
            1300                1305                1310

Pro Gly Gly Tyr Ile Ser Gly Pro Ala Met Arg Trp Ala Gly Gly Ile
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       1315                1320                1325

Val Gly Thr Leu Val Val Leu Phe Leu Ile Leu Ala Val Ile Tyr Cys
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Val Val Lys Lys Cys Arg Ser Lys Arg Ile Arg Ile Val Lys Ser
1345                1350                1355


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<212> PRT
<213> Salmon pancreatic disease virus

<220>
<223> capsid

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Met Phe Ala Pro Gly Ser Arg Gly Gln Val Gln Pro Tyr Arg Pro Arg
             20                  25                  30

Thr Lys Arg Arg Gln Glu Pro Gln Val Gly Asn Ala Ala Ile Thr Ala
         35                  40                  45

Leu Ala Asn Gln Met Ser Ala Leu Gln Leu Gln Val Ala Gly Leu Ala
     50                  55                  60

Gly Gln Ala Arg Val Asp Arg Arg Gly Pro Arg Arg Val Gln Lys Asn
 65                  70                  75                  80

Lys Gln Lys Lys Lys Asn Ser Ser Asn Gly Glu Lys Pro Lys Glu Lys
                 85                  90                  95

Lys Lys Lys Gln Lys Gln Gln Glu Lys Lys Gly Ser Gly Gly Glu Lys
            100                 105                 110

Val Lys Lys Thr Arg Asn Arg Pro Gly Lys Glu Val Arg Ile Ser Val
        115                 120                 125

Lys Cys Ala Arg Gln Ser Thr Phe Pro Val Tyr His Glu Gly Ala Ile
    130                 135                 140

Ser Gly Tyr Ala Val Leu Ile Gly Ser Arg Val Phe Lys Pro Ala His
145                 150                 155                 160

Val Lys Gly Lys Ile Asp His Pro Glu Leu Ala Asp Ile Lys Phe Gln
                165                 170                 175

Val Ala Glu Asp Met Asp Leu Glu Ala Ala Ala Tyr Pro Lys Ser Met
            180                 185                 190

Arg Asp Gln Ala Ala Glu Pro Ala Thr Met Met Asp Arg Val Tyr Asn
        195                 200                 205
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Trp Glu Tyr Gly Thr Ile Arg Val Glu Asp Asn Val Ile Ile Asp Ala
    210                 215                 220

Ser Gly Arg Gly Lys Pro Gly Asp Ser Gly Arg Ala Ile Thr Asp Asn
225                 230                 235                 240

Ser Gly Lys Val Val Gly Ile Val Leu Gly Gly Gly Pro Asp Gly Arg
                245                 250                 255

Arg Thr Arg Leu Ser Val Ile Gly Phe Asp Lys Lys Met Lys Ala Arg
            260                 265                 270

Glu Ile Ala Tyr Ser Asp Ala Ile Pro Trp
        275                 280
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<212> PRT
<213> Salmon pancreatic disease virus

<220>
<223> E3

<400> 5

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Thr Arg Ala Pro Ala Leu Leu Leu Leu Pro Met Val Ile Val Cys Thr
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Tyr Asn Ser Asn Thr Phe Asp Cys Ser Lys Pro Ser Cys Gln Asp Cys
             20                  25                  30

Cys Ile Thr Ala Glu Pro Glu Lys Ala Met Thr Met Leu Lys Asp Asn
         35                  40                  45

Leu Asn Asp Pro Asn Tyr Trp Asp Leu Leu Ile Ala Val Thr Thr Cys
     50                  55                  60

Gly Ser Ala Arg Arg Lys Arg
 65                  70
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<211> 438
<212> PRT
<213> Salmon pancreatic disease virus

<220>
<223> E2

<400> 6

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Ala Val Ser Thr Ser Pro Ala Ala Phe Tyr Asp Thr Gln Ile Leu Ala
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Ala His Ala Ala Ala Ser Pro Tyr Arg Ala Tyr Cys Pro Asp Cys Asp
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Gly Thr Ala Cys Ile Ser Pro Ile Ala Ile Asp Glu Val Val Ser Ser
        35                  40                  45

Gly Ser Asp His Val Leu Arg Met Arg Val Gly Ser Gln Ser Gly Val
    50                  55                  60

Thr Ala Lys Gly Gly Ala Ala Gly Glu Thr Ser Leu Arg Tyr Leu Gly
65                  70                  75                  80

Arg Asp Gly Lys Val His Ala Ala Asp Asn Thr Arg Leu Val Val Arg
                85                  90                  95

Thr Thr Ala Lys Cys Asp Val Leu Gln Ala Thr Gly His Tyr Ile Leu
            100                 105                 110

Ala Asn Cys Pro Val Gly Gln Ser Leu Thr Val Ala Ala Thr Leu Asp
        115                 120                 125

Gly Thr Arg His Gln Cys Thr Thr Val Phe Glu His Gln Val Thr Glu
    130                 135                 140

Lys Phe Thr Arg Glu Arg Ser Lys Gly His His Leu Ser Asp Met Thr
145                 150                 155                 160

Lys Lys Cys Thr Arg Phe Ser Thr Thr Pro Lys Lys Ser Ala Leu Tyr
                165                 170                 175

Leu Val Asp Val Tyr Asp Ala Leu Pro Ile Ser Val Glu Ile Ser Thr
            180                 185                 190

Val Val Thr Cys Ser Asp Ser Gln Cys Thr Val Arg Val Pro Pro Gly
        195                 200                 205

Thr Thr Val Lys Phe Asp Lys Lys Cys Lys Ser Ala Asp Ser Ala Thr
    210                 215                 220

Val Thr Phe Thr Ser Asp Ser Gln Thr Phe Thr Cys Glu Glu Pro Val
225                 230                 235                 240

Leu Thr Ala Ala Ser Ile Thr Gln Gly Lys Pro His Leu Arg Ser Ala
                245                 250                 255

Met Leu Pro Ser Gly Gly Lys Glu Val Lys Ala Arg Ile Pro Phe Pro
            260                 265                 270

Phe Pro Pro Glu Thr Ala Thr Cys Arg Val Ser Val Ala Pro Leu Pro
        275                 280                 285

Ser Ile Thr Tyr Glu Glu Ser Asp Val Leu Leu Ala Gly Thr Ala Lys
    290                 295                 300

Tyr Pro Val Leu Leu Thr Thr Arg Asn Leu Gly Phe His Ser Asn Ala
305                 310                 315                 320

Thr Ser Glu Trp Ile Gln Gly Lys Tyr Leu Arg Arg Ile Pro Val Thr
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                325                 330                 335

Pro Gln Gly Ile Glu Leu Thr Trp Gly Asn Asn Ala Pro Met His Phe
            340                 345                 350

Trp Ser Ser Val Arg Tyr Ala Ser Gly Asp Ala Asp Ala Tyr Pro Trp
        355                 360                 365

Glu Leu Leu Val Tyr His Thr Lys His His Pro Glu Tyr Ala Trp Ala
    370                 375                 380

Phe Val Gly Val Ala Cys Gly Leu Leu Ala Ile Ala Ala Cys Met Phe
385                 390                 395                 400

Ala Cys Ala Cys Ser Arg Val Arg Tyr Ser Leu Val Ala Asn Thr Phe
                405                 410                 415

Asn Ser Asn Pro Pro Pro Leu Thr Ala Leu Thr Ala Ala Leu Cys Cys
            420                 425                 430

Ile Pro Gly Ala Arg Ala
        435
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<210> 7
<211> 32
<212> PRT
<213> Salmon pancreatic disease virus

<220>
<223> 6K

<400> 7

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Asp Gln Pro Tyr Leu Asp Ile Ile Ala Tyr Phe Leu Gly Val Arg Gly
  1               5                  10                  15

Trp Ser Ala Leu Leu Val Ile Leu Ala Tyr Val Gln Ser Cys Lys Ser
             20                  25                  30
```

<210> 8
<211> 461
<212> PRT
<213> Salmon pancreatic disease virus

<220>
<223> E1

<400> 8

```
Tyr Glu His Thr Val Val Val Pro Met Asp Pro Arg Ala Pro Ser Tyr
  1               5                  10                  15
```

```
Glu Ala Val Ile Asn Arg Asn Gly Tyr Asp Pro Leu Lys Leu Thr Ile
            20                  25                  30

Ser Val Asn Phe Thr Val Ile Ser Pro Thr Thr Ala Leu Glu Tyr Trp
        35                  40                  45

Thr Cys Ala Gly Val Pro Ile Val Glu Pro Pro His Val Gly Cys Cys
    50                  55                  60

Thr Ser Val Ser Cys Pro Ser Asp Leu Ser Thr Leu His Ala Phe Thr
65                  70                  75                  80

Gly Lys Ala Val Ser Asp Val His Cys Asp Val His Thr Asn Val Tyr
                85                  90                  95

Pro Leu Leu Trp Gly Ala Ala His Cys Phe Cys Ser Thr Glu Asn Thr
            100                 105                 110

Gln Val Ser Ala Val Ala Ala Thr Val Ser Glu Phe Cys Ala Gln Asp
        115                 120                 125

Ser Glu Arg Ala Glu Ala Phe Ser Val His Ser Ser Ser Val Thr Ala
    130                 135                 140

Glu Val Leu Val Thr Leu Gly Glu Val Val Thr Ala Val His Val Tyr
145                 150                 155                 160

Val Asp Gly Val Thr Ser Ala Arg Gly Thr Asp Leu Lys Ile Val Ala
                165                 170                 175

Gly Pro Ile Thr Thr Asp Tyr Ser Pro Phe Asp Arg Lys Val Val Arg
            180                 185                 190

Ile Gly Glu Glu Val Tyr Asn Tyr Asp Trp Pro Pro Tyr Gly Ala Gly
        195                 200                 205

Arg Pro Gly Thr Phe Gly Asp Ile Gln Ala Arg Ser Thr Asn Tyr Val
    210                 215                 220

Lys Pro Asn Asp Leu Tyr Gly Asp Ile Gly Ile Glu Val Leu Gln Pro
225                 230                 235                 240

Thr Asn Asp His Val His Val Ala Tyr Thr Tyr Thr Thr Ser Gly Leu
                245                 250                 255

Leu Arg Trp Leu Gln Asp Ala Pro Lys Pro Leu Ser Val Thr Ala Pro
            260                 265                 270

His Gly Cys Lys Ile Ser Ala Asn Pro Leu Leu Ala Leu Asp Cys Gly
        275                 280                 285

Val Gly Ala Val Pro Met Ser Ile Asn Ile Pro Asp Ala Lys Phe Thr
    290                 295                 300

Arg Lys Leu Lys Asp Pro Lys Pro Ser Ala Leu Lys Cys Val Val Asp
305                 310                 315                 320
```

Ser Cys Glu Tyr Gly Val Asp Tyr Gly Gly Ala Ala Thr Ile Thr Tyr
325 330 335

Glu Gly His Glu Ala Gly Lys Cys Gly Ile His Ser Leu Thr Pro Gly
340 345 350

Val Pro Leu Arg Thr Ser Val Val Glu Val Val Ala Gly Ala Asn Thr
355 360 365

Val Lys Thr Thr Phe Ser Ser Pro Thr Pro Glu Val Ala Leu Glu Val
370 375 380

Glu Ile Cys Ser Ala Ile Val Lys Cys Ala Gly Glu Cys Thr Pro Pro
385 390 395 400

Lys Glu His Val Val Ala Thr Arg Pro Arg His Gly Ser Asp Pro Gly
405 410 415

Gly Tyr Ile Ser Gly Pro Ala Met Arg Trp Ala Gly Gly Ile Val Gly
420 425 430

Thr Leu Val Val Leu Phe Leu Ile Leu Ala Val Ile Tyr Cys Val Val
435 440 445

Lys Lys Cys Arg Ser Lys Arg Ile Arg Ile Val Lys Ser
450 455 460

<210> 9
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 9
tgcatgcggc cgcatgtttc ccatgcaatt caccaac 37

<210> 10
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 10
tgcatgcggc cgcttgtatt gaaaatttta aaaccaa 37

<210> 11
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 11
tgcatgcggc cgcatgacac gcgctccggc cctcctg 37

<210> 12
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 12
tgcatgcggc cgctcacgcg cgagcccctg gtatgcaaca 40

<210> 13
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 13
tgcatgcggc cgcatggctg tgtctacgtc gcctgcc 37

<210> 14
<211> 204
<212> DNA
<213> Salmon pancreatic disease virus

<220>
<221> CDS
<222> (1)..(204)
<223> 6K

<400> 14
gac caa ccc tac ttg gac atc att gcc tac ttg tgg acc aac agc aaa 48
Asp Gln Pro Tyr Leu Asp Ile Ile Ala Tyr Leu Trp Thr Asn Ser Lys
1 5 10 15

gtg gcc ttc ggg cta caa ttt gcg gcg ccc gtg gcc tgt gtg ctc atc 96
Val Ala Phe Gly Leu Gln Phe Ala Ala Pro Val Ala Cys Val Leu Ile
20 25 30

att aca tac gcc ctt agg cac tgc aga ttg tgc tgc aag tct ttt tta 144
Ile Thr Tyr Ala Leu Arg His Cys Arg Leu Cys Cys Lys Ser Phe Leu
35 40 45

ggg gta aga ggg tgg tca gcc ctg ctg gtc atc ctt gcg tat gta cag 192
Gly Val Arg Gly Trp Ser Ala Leu Leu Val Ile Leu Ala Tyr Val Gln

```
     50                  55                  60

agc tgc aag agc                                                    204
Ser Cys Lys Ser
 65
```

<210> 15
<211> 68
<212> PRT
<213> Salmon pancreatic disease virus

<400> 15

```
Asp Gln Pro Tyr Leu Asp Ile Ile Ala Tyr Leu Trp Thr Asn Ser Lys
  1               5                  10                  15

Val Ala Phe Gly Leu Gln Phe Ala Ala Pro Val Ala Cys Val Leu Ile
             20                  25                  30

Ile Thr Tyr Ala Leu Arg His Cys Arg Leu Cys Cys Lys Ser Phe Leu
         35                  40                  45

Gly Val Arg Gly Trp Ser Ala Leu Leu Val Ile Leu Ala Tyr Val Gln
     50                  55                  60

Ser Cys Lys Ser
 65
```